

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

PS- V.S.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/746,600 12/21/00 IWATA

H 172A 3054

EXAMINER

MMC2/0621

KODA & ANDROLIA  
SUITE 2340  
10100 SANTA MONICA BLVD.  
LOS ANGELES CA 90067

GONZALEZ, J

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

06/21/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/746,600

Applicant(s)

IWATA, HIROKAZU

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

- ✓ 1. The disclosure is objected to because of the following informalities: letter "a" in page 14, line 15 stands for? Appropriate correction is required.
- ✓ 2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: High frequency piezoelectric resonator having electrodes with different materials and different densities and having a main elliptic electrode.

### *Drawings*

- ✓ 3. Figures 7a, 7b, 8-11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
- ✓ 4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "1" has been used to designate both substrate and crystal plate. Correction is required.
- ⑦ 5. The drawings are objected to because in page 19, line 9, applicant discloses that both electrodes (main and secondary) are elliptical, but only the main electrode is shown to be elliptical (see figure 5). Correction is required.

### *Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant discloses in claim 2 "relevant values" are set? What are the parameters of these "values"? How do they affect the electrodes? What is considered a trap mode?

What is an anti-symmetric 0<sup>th</sup> mode? How are those modes related to the electrodes?

*quasi vibration ↗*

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eda et al in view of Novikov.

Eda et al discloses a high frequency piezoelectric resonator including a plate having main electrodes 26, a pair of second electrodes 16, the piezoelectric plate having a recess (see figure 26A) and the main electrode having an elliptic shape (see figure 26B). Moreover the second electrode is divided into a plurality of portions (see abstract).

However Eda et al does not disclose that the electrodes are made of different materials. On the other hand, Novikov discloses for the purpose of improving the accuracy of measurement of amplitude frequency over a wide range of frequency spectrum that the electrodes are made of different materials and have different densities (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a piezoelectric device having main electrodes and secondary electrodes as disclosed by Eda et al and to modify the invention using different materials for the purpose of improving the accuracy of measurement of amplitude frequency over a wide range of frequency spectrum as disclosed by Novikov.

***Conclusion***

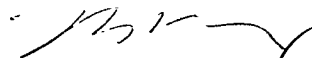
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

June 11, 2001

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800